



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,264	03/23/2006	Uri Peled	63402A	9413
109 7590 07/26/2007 THE DOW CHEMICAL COMPANY INTELLECTUAL PROPERTY SECTION, P. O. BOX 1967 MIDLAND, MI 48641-1967			EXAMINER NGUYEN, SON T	
			ART UNIT 3643	PAPER NUMBER
			MAIL DATE 07/26/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/573,264

Applicant(s)

PELED ET AL.

Examiner

Son T. Nguyen

Art Unit

3643

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

SON T. NGUYEN
PRIMARY EXAMINER

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>3/23/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claims 1-13** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For claim 1, line 2, the phrase "sheet" lacks prior antecedent basis.

For claims 3,4,8-12, the phrase "the thermoplastic polyurethane" lacks prior antecedent basis.

For claims 6-12, the phrase "the thermoplastic polyurethane" lacks prior antecedent basis. In addition, it appears that the aromatic thermoplastic polyurethane is being claimed again, i.e. "the film or sheet is an aromatic thermoplastic polyurethane".

For claim 12 (in addition to the above), the word or symbol " T_g " is unclear and should be spelled out for what it stands for.

For claim 13, the phrases "the thermoplastic polyurethane" and "the dispersed additives" lack prior antecedent basis. In addition, it is unclear what Applicant is claiming regarding "a film extrusion step" because this phrase does not appear to tie in to the process.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 3643

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1,2,5,8-10,13** are rejected under 35 U.S.C. 102(b) as being anticipated by Yamana et al. (EP1331247A1 on form PTO-1449).

For claim 1, Yamana et al. teach an improved agricultural soil heating process (for agriculture film, page 9, [0081]) using a plastic film characterized in that the plastic film or sheet is an aromatic thermoplastic polyurethane film or sheet (the ingredients in making the polyurethane are aromatic diisocyanates or dicarboxylic acid which makes the polyurethane aromatic, page 5, [0031],page 7, [0049]).

For claim 2, Yamana et al. teach where the thickness of the thermoplastic polyurethane film or sheet is from about 20 to about 150 microns (page 9, [0078]).

For claim 5, Yamana et al. teach where the agricultural soil heating process is solar soil sterilization because it is used for agricultural film for plant or ground cover.

For claim 8, Yamana et al. teach where the thermoplastic polyurethane used to prepare the film or sheet is an aromatic thermoplastic polyurethane having a Shore A hardness of at least 80 (page 3, [0016]).

For claim 9, Yamana et al. teach where the thermoplastic polyurethane used to prepare the film or sheet is an aromatic thermoplastic polyurethane having a Shore A hardness of at least 85 (page 3, [0016]).

For claim 10, Yamana et al. teach where the thermoplastic polyurethane used to prepare the film or sheet is an aromatic thermoplastic polyurethane having a Shore A hardness of at least 90 (page 3, [0016]).

For claim 13, Yamana et al. teach where the thermoplastic polyurethane used to prepare the film or sheet contains the dispersed additives (page 6, [0038]) prior to being supplied to a film extrusion step (page 8, [0068], it is inherent in Yamana et al. that the additives have to be added in the process making the film prior to extruding because extruding is the final step in creating the desired film).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 3,4,6,7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamana et al. as applied to claim 1 above, and further in view of Ward et al. (5428123).

For claims 3 & 4, Yamana et al. teach polyether (page 3, [0021], page 5, [0028]) but not a polyether type of soft segment. Ward et al. teach known polyether and polyester polyurethanes type of soft segment (col. 2, lines 9-15, col. 7, lines 1-8,48-65, col. 8, lines 1-15) for used in a variety of applications such as films and membranes (col. 1,line 17). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ polyether and polyester polyurethanes type of soft segment as taught by Ward et al. as the preferred polyether and polyester polyurethanes of Yamana et al. in order to provide a flexible, yet strong, film. KSR International Co. v. Teleflex Inc., 127 S. Ct. 1727, 1739, 1740, 82 USPQ2d 1385, 1395, 1396 (2007).

For claims 6 & 7, Yamana et al. teach polyurethane but not one with a hard segment content of at least 30 percent by weight or at least 40 percent by weight. In addition to the above, Ward et al. also teach hard segment polyurethane of at least 30 percent by weight or at least 40 percent by weight (col. 2, lines 9-15, col. 6, lines 8-10, col. 7, lines 1-8, 48-65, col. 8, lines 1-15) for used in a variety of applications such as films and membranes (col. 1, line 17). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ polyurethane of hard segment of at least 30 percent by weight or at least 40 percent by weight as taught by Ward et al. as the preferred polyurethane of Yamana et al. in order to provide a flexible, yet strong, film. *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1739, 1740, 82 USPQ2d 1385, 1395, 1396 (2007).

7. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamana et al. (as above).

Yamana et al. are silent about where the thermoplastic polyurethane used to prepare the film or sheet is an aromatic thermoplastic polyurethane having a Shore D hardness of not more than 75. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have the aromatic thermoplastic polyurethane of Yamana et al. with a Shore D hardness of not more than 75, since it has been held that where routine testing and general experimental conditions are present, discovering the optimum or workable ranges until the desired effect is achieved involves only routine skill in the art. *In re Aller*, 105 USPQ 233. *KSR International Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1739, 1740, 82 USPQ2d 1385, 1395, 1396 (2007).

8. **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamana et al. as applied to claim 1 above, and further in view of Hoenig et al. (6156842).

Yamana et al. are silent about where the thermoplastic polyurethane used to prepare the film or sheet is an aromatic thermoplastic polyurethane having a Tg of less than 25°C.

Hoenig et al. teach aromatic polyurethane used in a variety of applications, wherein the polyurethane is preferably having a Tg of less than 25°C (col. 10, lines 11-28). It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ aromatic polyurethane with a Tg of less than 25°C as taught by Hoenig et al. as the preferred aromatic polyurethane in the process of Yamana et al. in order to create a flexible, yet strong, film or sheet. KSR International Co. v. Teleflex Inc., 127 S. Ct. 1727, 1739, 1740, 82 USPQ2d 1385, 1395, 1396 (2007).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son T. Nguyen whose telephone number is 571-272-6889. The examiner can normally be reached on Mon-Thu from 10:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter M. Poon can be reached on 571-272-6891. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status

Art Unit: 3643

information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Son T Nguyen', is positioned above the printed name.

Son T Nguyen
Primary Examiner
AU 3643